

Future Dairy Farm Systems Project – NARF (Dargaville)

This project compares the productivity, profitability and impact on people and the environment on three farms, being:

1. **Current Farm** – Kikuyu & ryegrass based pastures with up to 190 kg N/ha/annum, 3.1 cows/ha
2. **Alternative Pastures Farm** – Fescue & cocksfoot based pastures, up to 190 kg N/ha, 3.1 cows/ha
3. **Low Emissions Farm** – Kikuyu & ryegrass based pastures, designed to reduce methane emissions by 25% and nitrous oxide by 50%, no nitrogen applied, 2.3 cows/ha

This project is funded by DairyNZ, MPI (Sustainable Food & Fibre Futures) and Hine Rangī Trust.

Update – 7 th September 2023	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2281	2241	2090
Pasture Growth (kg DM/ha/d, last 2 weeks)	62	58	42
Rotation Length (days)	41	36	39
Cows in Milk/Peak Cows	79/83	79/85	58/62
Production/cow/day (kg MS)	1.89	1.99	1.77
Production/ha/day (kg MS)	4.49	5.19	3.07
SCC	93	90	135
Supplement Offered (kg DM/cow/day)	1.9 PKE Dries 4.9 PKE Milkrs	1.9 PKE Dries 5.5 PKE Milkrs	1.9 PKE Dries 5.7 Sil Milkrs 5.7 PKE Milkrs
Purchased Supplement Fed (kg DM/cow)	395 PKE	366 PKE	48 PKE
Homegrown Silage Fed (kg DM/cow)	0	46 Baleage	598 Baleage
Homegrown Silage on hand (kg DM/cow)	0	0	0
Average Body Condition Score (Milkers)	4.3	4.4	4.1
Manager Worry Score (1 = Low, 10 = High)	4	4	4
Nitrogen to date – 2023/24 Season (kg N/ha)	80	75	0
Rainfall (last two weeks)	45 mm		

CURRENT MANAGEMENT

- Spring is arriving. Pasture growth rates and covers have lifted significantly over the last fortnight, although there is a significant difference between N and no N pasture growth.
- Comparing pasture growth rates on the Low Emissions Farm and the other farms indicates a nitrogen response of around 14 kg DM/kg N applied so far this season. Likely that this response will be higher at present while growing conditions are good.
- We are gradually speeding up the rotation, currently aiming for 35 days on the Current and Alternative Pasture Farms and 40 days on the Low Emissions Farms. We have an expected balance date of 20th September.
- We plan to reduce the supplement use over the next 10 days as the pasture offered increases (due to the faster rotation), aiming for cows on all farms to be fully fed on pasture within the next fortnight. Soils are still waterlogged in many areas, reducing pasture utilisation, so we will remain open to supplement use if the weather doesn't oblige.
- 100 kg/ha Ammo 36 continues behind the cows on the Current and Alternative Pastures farms. We will switch back to Sustain within a fortnight.